12439500 OKANOGAN RIVER AT OROVILLE, WA
(International gaging station)

LOCATION.--Lat 48°55'51", long 119°25'09", in SE¼SW¼ sec.27, T.40 N., R.27 E., Okanogan County, Hydrologic Unit 17020006, on left bank in Oroville, 20 ft downstream from Burlington Northern trestle, 0.5 mi downstream from Tonasket Creek, 1.7 mi downstream from Osoyoos Lake, 3.2 mi upstream from Similkameen River, and at mile 77.3.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--3,195 mi^2.

PERIOD OF RECORD.--October 1942 to current year.

REVISED RECORDS.--WDR WA-75-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is NGVD of 1929. Prior to Oct. 26, 1944, nonrecording gage at Zosel Mill dam 200 ft upstream, Oct. 26, 1944, to Mar. 6, 1948, water-stage recorder on railroad trestle 20 ft upstream, both at same datum. Auxiliary water-stage recorder 0.5 mi downstream used during high-water periods; May 15, 1946, to Apr. 9, 1948, nonrecording gage at same site, both at datum 900.00 ft above NGVD of 1929. To convert to 1947 joint adjustment of U.S. Coast and Geodetic Survey and Geodetic Survey of Canada, subtract 0.26 ft.

REMARKS.--No estimated daily discharges. Records good. Diversions made to irrigate approximately 44,000 acres in Canada and minor diversions in the United States upstream from station. Natural regulation in several large lakes and artificial regulation in Okanagan Lake 46.7 mi upstream for flood control and irrigation; also regulated by Zosel dam at Oroville, 500 ft upstream from gage. Water temperature April 1986 to September 1987. U.S. Geological Survey satellite telemeter at station.

COOPERATION.--This station is maintained by the United States under agreement with Canada.

AVERAGE DISCHARGE.--63 years (water years 1943-2005), 684 ft^3/s, 495,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,770 ft^3/s, June 7, 1997; maximum elevation, 916.89 ft, June 2, 1972, at datum then in use, backwater from Similkameen River; minimum daily discharge, -2,270 ft^3/s, reverse flow, May 29, 1948; minimum elevation, 903.98 ft, Mar. 1, 1948, at datum then in use.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,000 ft^3/s, July 1; maximum elevation, 908.71 ft, July 1, result of regulation at Zosel Dam; minimum discharge, 140 ft^3/s, May 23; minimum elevation, 905.94, May 23, result of regulation at Zosel Dam.

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	397	479	341	813	994	762	554	775	296	1,970	1,050	298
2	397	532	471	806	993	526	555	778	301	1,970	1,030	296
3	399	527	627	739	988	546	553	781	302	1,920	936	296
4	402	520	651	715	991	567	596	784	296	1,820	865	295
5	406	513	662	711	991	579	864	787	294	1,560	837	295
6	410	509	700	718	989	591	1,010	939	305	1,330	833	296
7	409	504	770	741	987	989	907	1,040	340	1,180	832	295
8	350	497	804	751	984	976	924	992	360	1,020	591	295
9	308	492	823	756	990	719	986	924	363	755	398	296
10	314	487	829	746	1,010	642	980	957	364	718	244	295
11	319	485	838	745	1,070	446	707	979	364	746	143	295
12	453	476	834	749	1,110	362	416	1,090	364	812	144	295
13	544	467	766	762	1,110	367	427	1,160	303	865	144	300
14	553	463	706	774	1,120	369	437	1,140	269	883	149	304
15	560	458	751	774	1,110	372	447	1,120	269	922	151	305
16	568	519	767	787	1,110	375	457	1,130	269	951	151	336
17	568	534	770	798	1,110	380	654	1,120	269	954	151	353
18	568	525	769	868	1,110	480	759	1,090	273	1,030	183	314
19	568	515	769	907	1,110	541	951	1,060	404	1,110	241	299
20	568	501	777	917	1,110	543	840	970	623	1,090	295	295
21	569	488	784	919	1,110	547	768	843	392	1,080	296	295
22	566	480	786	905	1,110	548	886	839	341	1,080	300	300
23	558	466	784	907	1,100	549	1,020	403	387	1,090	300	300
24	556	458	775	954	1,100	544	1,080	147	458	1,100	299	300
25	446	452	775	985	1,100	544	1,160	404	458	1,090	295	300
26	383	442	792	984	1,110	545	1,060	728	454	1,080	295	300
27	383	433	799	987	1,110	550	1,030	708	698	1,080	295	300
28	377	424	787	987	1,110	550	949	686	1,520	1,080	295	300
29	377	340	796	993	---	550	816	423	1,880	1,080	297	299
30	376	284	799	991	---	550	774	288	1,940	1,080	300	377
31	376	---	811	993	---	552	---	296	---	1,080	300	---
TOTAL	14,028	14,270	23,113	26,182	29,837	17,161	23,567	25,381	15,156	35,526	12,640	9,124
MEAN	453	476	746	845	1,066	554	786	819	505	1,146	408	304
MAX	569	534	838	993	1,120	989	1,160	1,160	1,940	1,970	1,050	377
MIN	308	284	341	711	984	362	416	147	269	718	143	295
AC-FT	27,820	28,300	45,840	51,930	59,180	34,040	46,750	50,340	30,060	70,470	25,070	18,100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 2005, BY WATER YEAR (WY)

MEAN	505	475	466	486	574	637	760	1,142	1,132	815	649	564
MAX	1,430	1,551	1,404	1,190	1,214	1,918	2,475	2,870	3,165	2,598	2,570	2,279
(WY)	(1949)	(1949)	(1949)	(1949)	(1997)	(1983)	(1983)	(1983)	(1997)	(1997)	(1997)	(1997)
MIN	179	148	149	162	140	74.1	115	180	111	126	150	81.7
(WY)	(1989)	(1971)	(1971)	(1968)	(1971)	(1977)	(1968)	(1992)	(1992)	(1947)	(1963)	(1944)

12439500 OKANOGAN RIVER AT OROVILLE, WA—Continued

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1943 - 2005	
ANNUAL TOTAL	129,145		245,985			
ANNUAL MEAN	353		674		684	
HIGHEST ANNUAL MEAN					1,691	1997
LOWEST ANNUAL MEAN					213	1988
HIGHEST DAILY MEAN	1,280	Sep 25	1,970	Jul 1	3,680	Jun 14, 1972
LOWEST DAILY MEAN	97	May 2	143	Aug 11	-2,270	May 29, 1948
ANNUAL SEVEN-DAY MINIMUM	108	Apr 26	148	Aug 11	-1,080	May 24, 1948
ANNUAL RUNOFF (AC-FT)	256,200		487,900		495,500	
10 PERCENT EXCEEDS	766		1,090		1,480	
50 PERCENT EXCEEDS	279		596		495	
90 PERCENT EXCEEDS	120		296		200	

12439500 OKANOGAN RIVER AT OROVILLE, WA

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: Mar. 30 to Sept. 30, 2005.

INSTRUMENTATION.--Electronic thermistor/logger with 30-minute log interval.

REMARKS.--Records good due to variability in cross-section comparison of Sept. 8.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum 26.8°C, Aug. 10; minimum, 5.5°C, Mar. 30.

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

12439500 OKANOGAN RIVER AT OROVILLE, WA—Continued

TEMPERATURE, WATER, DEGREES CELSIUS—CONTINUED
WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	---	---	---	8.1	6.1	7.0	14.9	12.6	13.7
2	---	---	---	---	---	---	7.3	5.9	6.6	15.1	12.4	13.7
3	---	---	---	---	---	---	7.3	6.3	6.8	14.8	11.8	13.1
4	---	---	---	---	---	---	8.3	6.4	7.2	15.4	14.1	14.8
5	---	---	---	---	---	---	7.8	6.6	7.1	16.8	14.0	15.4
6	---	---	---	---	---	---	8.4	6.6	7.3	18.1	15.4	16.7
7	---	---	---	---	---	---	8.7	6.9	7.6	18.6	16.5	17.5
8	---	---	---	---	---	---	8.6	6.9	7.6	17.6	16.2	16.9
9	---	---	---	---	---	---	10.1	7.8	8.8	17.3	16.4	16.7
10	---	---	---	---	---	---	9.6	8.1	8.8	17.1	16.0	16.5
11	---	---	---	---	---	---	9.3	7.8	8.3	18.4	15.4	16.9
12	---	---	---	---	---	---	9.3	7.5	8.5	19.4	17.0	18.1
13	---	---	---	---	---	---	9.6	7.0	8.5	18.1	15.4	17.0
14	---	---	---	---	---	---	10.1	8.3	9.2	17.3	14.9	16.1
15	---	---	---	---	---	---	9.2	8.1	8.6	17.3	15.7	16.9
16	---	---	---	---	---	---	8.9	7.8	8.2	17.6	15.9	16.7
17	---	---	---	---	---	---	9.6	7.8	8.7	18.4	15.0	17.0
18	---	---	---	---	---	---	10.4	8.3	9.3	15.9	13.8	14.8
19	---	---	---	---	---	---	11.2	8.6	10	16.7	13.8	15.6
20	---	---	---	---	---	---	11.1	9.3	10.2	16.5	13.1	14.8
21	---	---	---	---	---	---	12.6	10.0	11.2	16.0	13.8	14.9
22	---	---	---	---	---	---	12.6	9.8	10.9	15.6	12.3	14.2
23	---	---	---	---	---	---	11.8	9.2	10.5	18.6	13.5	15.5
24	---	---	---	---	---	---	13.7	10.9	12.2	20.2	15.1	17.2
25	---	---	---	---	---	---	15.6	13.1	14.3	19.7	16.2	18.0
26	---	---	---	---	---	---	16.2	13.1	14.5	20.0	17.3	18.6
27	---	---	---	---	---	---	15.1	13.2	14.0	20.4	17.3	18.8
28	---	---	---	---	---	---	14.6	12.6	13.7	21.2	17.6	19.3
29	---	---	---	---	---	---	14.8	12.9	13.8	22.7	19.9	21.3
30	---	---	---	7.6	5.5	6.6	14.6	13.2	13.9	22.0	19.7	21.0
31	---	---	---	7.2	6.1	6.7	---	---	---	19.7	17.8	18.7
MONTH	---	---	---	---	---	---	16.2	5.9	9.8	22.7	11.8	16.7
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	18.4	---	22.9	20.2	21.6	24.2	22.9	23.5	22.7	20.7	21.6
2	---	---	---	22.7	21.4	22.0	24.0	22.2	23.2	22.9	20.9	21.7
3	21.0	---	---	22.7	20.9	21.8	24.6	22.2	23.3	21.8	19.9	20.7
4	20.9	18.8	19.7	23.4	21.0	22.1	24.9	22.7	23.8	21.5	20.0	20.5
5	19.6	17.3	18.4	23.5	20.5	22.2	25.6	23.0	24.2	21.5	19.1	20.2
6	19.4	16.8	18.1	21.8	19.4	20.7	26.5	24.0	25.2	22.0	19.6	20.6
7	18.9	17.6	18.2	22.2	19.4	20.9	26.5	24.7	25.6	22.2	19.7	20.8
8	18.9	17.3	18.0	21.8	19.9	21.2	26.3	24.6	25.4	22.7	20.2	21.3
9	20.0	17.3	18.8	21.4	19.6	20.4	26.0	23.7	24.8	21.4	19.4	20.5
10	20.7	18.1	19.5	21.2	19.9	20.4	26.8	23.7	24.8	19.8	18.4	19.0
11	21.2	19.4	20.1	22.0	19.9	20.7	26.7	23.0	24.4	19.0	18.5	18.7
12	20.9	18.4	19.8	23.4	19.9	21.5	25.6	22.4	23.6	20.1	18.5	19.0
13	20.9	19.2	19.9	23.4	21.4	22.4	26.0	21.7	23.4	20.1	18.2	19.1
14	19.2	17.3	18.2	23.7	21.2	22.5	26.3	21.7	23.6	19.9	18.2	19.1
15	20.7	17.6	19.0	23.4	21.5	22.0	26.0	22.0	23.7	20.1	19.1	19.5
16	20.9	19.2	19.8	22.4	21.0	21.7	26.1	22.2	23.8	19.6	18.6	19.1
17	19.4	18.4	19.1	23.7	20.9	22.3	24.6	21.7	23.0	19.8	17.7	18.8
18	19.6	17.9	18.7	23.9	21.8	22.9	24.6	20.9	22.5	19.7	18.1	18.9
19	20.9	18.4	19.8	25.1	22.7	23.9	24.4	21.2	22.6	19.5	17.6	18.4
20	22.4	19.6	21.0	25.6	23.2	24.4	24.2	22.2	23.1	19.5	17.4	18.3
21	23.7	21.4	22.4	25.4	23.2	24.3	24.0	21.5	22.8	19.2	17.3	18.1
22	23.7	21.7	22.5	24.3	22.9	23.3	23.5	21.8	22.5	18.7	17.1	17.7
23	23.0	20.9	22.1	24.6	22.2	23.4	22.2	20.5	21.5	17.7	16.0	16.7
24	23.5	22.0	22.6	24.1	22.6	23.3	22.5	20.2	21.2	17.3	15.4	16.2
25	23.0	21.0	22.1	23.7	21.7	22.7	23.2	20.4	21.7	17.6	15.6	16.5
26	23.0	21.4	22.2	24.2	21.8	22.8	23.7	21.4	22.4	17.8	16.4	17.0
27	22.0	20.4	20.8	24.7	21.8	23.2	24.0	21.7	22.8	17.5	15.9	16.6
28	22.2	20.4	21.1	25.8	23.5	24.7	24.0	22.0	22.9	16.7	15.1	15.9
29	22.9	20.7	21.6	26.3	24.2	25.3	22.4	20.2	21.2	17.3	16.0	16.6
30	23.4	20.2	21.8	26.1	24.1	25.2	21.7	19.6	20.4	16.9	16.4	16.7
31	---	---	---	25.6	23.2	24.1	22.4	19.9	21.0	---	---	---
MONTH	---	---	---	26.3	19.4	22.6	26.8	19.6	23.2	22.9	15.1	18.8